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INTERNATIONAL BULLETIN
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DISCOVERIES AND CURRENT EVENTS *

ARGENTINE REPUBLIC.

Experiments on the Chemical Control of the South American Locust during the Last Few Years †

The purpose of this communication is to report the results of experiments carried out on the control of the South American locust (*Schistocerca paranensis*) in the Argentina Republic in recent years with the use of different chemical products.

Experiments were begun about the middle of 1935 on adults with the following formulae: (*a*) 45 per cent. sodium arsenite, 5 per cent. disodium phosphate and 50 per cent. whiting; (*b*) 67 per cent. sodium arsenite, 8 per cent. disodium phosphate and 25 per cent. whiting; (*c*) 90 per cent. sodium arsenite and 10 per cent. disodium phosphate.

The most effective formulae were (*b*) and (*c*) which caused a high mortality rate among the locusts coming into contact with these powders. The best results were obtained when conditions were favourable, that is, when the atmospheric moisture was sufficient to render the action of the sodium arsenite more potent.

The product was dispersed by means of powerful motor sprayers mounted on trucks.

In view of the results obtained, investigations were continued throughout 1936 with the collaboration of technicians of the ' Dirección de Sanidad Vegetal ' and the former Commission for Studies on Locust Control. The 1936 results confirmed those of the previous year.

Despite these successful results, however, this method had to be abandoned as the product coming into contact with animals and plants caused organic disturbances which in some cases, were fatal owing to the high toxicity of the sodium arsenite. There was also the same danger for man and the workmen who carried out operations had to wear protective masks.

In August, 1936, samples of insecticides were received from Messrs Schering and Gbr. Borchers A. G. and analyzed at the Chemistry Laboratory of the ' Dirección de Agricultura '.

* Under this and the next heading the countries are arranged in French alphabetical order.

† Communication from Mr JUAN F. TOMASELLO, Agricultural Engineer, Director of the ' Defensa Agrícola ', Ministry of Agriculture, Buenos Aires, Argentine Republic.

When their composition was known, the ' Dirección de Sanidad Vegetal ' commissioned Mr Lizer y Trelles, Agricultural Engineer, Chief of the Division of Agricultural Zoology, to try out these products.

Experiments were first carried out in the laboratory and later at the place of Dr Carlos Bruch at Vicente Lopez, by putting the locusts in small cages and using one of the preparations ' K-3 ' at concentrations of 5, 10 and 15 per cent.

The results were all successful despite the difference in concentration and within a varying period, the locusts used in the test were destroyed.

To confirm these results, experiments were started in the field by Mr Paolo Kohler, entomologist of the said Division. The first experiment took place at Río Ceballos, Province of Córdoba on October 21, 1936 on healthy adults, hoppers and also ticks. Work was supervised by this technician who, in his telegraphic reports to the Chief of the Division, stated that ' the adults dusted died within 48 minutes; the hoppers (in the open) within 5 to 15 minutes; the ticks resisted for 18 to 20 hours after treatment '.

A later experiment also carried out at Río Ceballos on October 29, 1936, again proved the excellent quality of ' K-3 ' as the locusts died within two hours of treatment and medium sized ticks within a still shorter period.

On January 15, 1937, Mr Lizer y Trelles and the Director of the ' Defensa Agrícola ' who prepared this report carried out the first field experiment on the grounds of the former San Martín race course by dusting nymphs placed in an enclosure from 30 to 40 m^2 in area with the product; 15 minutes after the first application, the insects showed signs of poisoning and 24 hours later a considerable number were found dead.

During the years 1937-38-39 and also at the beginning of 1940, control operations were continued using two products, killing enormous quantities of locusts (hoppers, nymphs and adults) which may without exaggeration be estimated at 716,221,250 kg.

The quantities of ' K-3 ' and ' Effusan 3436 ' employed amounted to about 350,000 kg. At present operations are being carried out with numerous powerful motor sprays mounted on trucks as indicated above.

The ' Director of the ' Defensa Agrícola ' considers that the utilization of the above-mentioned chemical products, the active principle of which is dinitroorthocresol, will prove an important advance towards the solution of the problem of locust control in the countries which are periodically subject to invasion by these insects.

SPAIN.

New Rice Pest Observed at Valencia *

Since 1935, in the Valencia rice-fields, the rice borer, *Chilo simplex* Butl. (*Pyralidae Crambinae*), has increased considerably. It is thought that this insect is relatively new to Spain, having been observed for the first time by Gómez-

* Communication from the official correspondent of the Institute, Mr José del Cañizo, Agricultural Engineer, Central Phytopathological Station, Madrid, Spain.

Clemente in September, 1933. This borer new to Europe causes considerable damage, the caterpillars perforating the rice stalks. It hibernates in the larval state in the stalks and stubble; consequently, an effective control measure is to burn the straw in infested rice-fields, after first collecting it into small heaps. The rice should be cropped close to the ground, otherwise the majority of the caterpillars will remain in the stubble which will then have to be removed and destroyed. There appear to be two generations a year. Experiments carried out by the Phytopathological Station at Burjasot (Valencia) by adding insecticides to the water in the rice-fields have not given results of any practical importance.

LEGISLATIVE AND ADMINISTRATIVE MEASURES

Germany. — In derogation of the provisions in force, a Circular dated October 24, 1940 authorizes the introduction of straw and hay from France, the Netherlands, Belgium and Luxemburg, provided that it is only employed as a packing material. The said straw and hay must be destroyed on arrival at place of destination. (*Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin, Anfang Dezember 1940, 20. Jahrg., Nr. 12, S. 84).

*** By Ordinance of October 29, 1940, the President of the ' Biologische Reichanstalt für Land- und Forstwirtschaft ', Berlin-Dahlem is authorized to attend to the requests for permits for the importation of vines from abroad to Ostmark. The Minister of Agriculture, however, has the right to decide in the case of questions of principle. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. Dezember 1940, Bd. XII, Nr. 7, S. 153-154).

*** Ordinance of November 1, 1940 modifies the regulations relative to the size of seed potatoes established by Ordinance of January 10, 1939 [see this *Bulletin*, 1939, No. 5, pp. 110-111]. The minimum and maximum dimensions respectively are fixed at 3.4 and 8 cm. for round tubers, and 4 and 9 cm. for the oblong varieties. If it is desired to stipulate measurements lower or higher than these limits, the contract must first be submitted for approval to the agricultural authorities. (*Ibid.*, S. 154).

*** By Ordinance, dated November 4, 1940, the application of the prescriptions regulating the trade in poisons and toxic preparations intended for use in the control of plant diseases and pests is extended to the eastern regions recently annexed to the Reich.

The prescriptions in questions are given in the Police Ordinance (Prussia) of January 11, 1938 [see this *Bulletin*, 1938, No. 4, p. 78], Police Ordinance of February 13, 1940 [see this *Bulletin*, 1940, No. 6, pp. 121-122], and the Amendment to the latter Ordinance on August 13, 1940. (*Ibid.*, S. 155).

Germany (Anhalt). — An Ordinance of October 22, 1940 rules that in derogation of the provisions exacting the elimination of potato varieties not resistant to wart disease [*Synchytrium endobioticum*], the 'Erstling' variety may be cultivated until further notice. The quantity to be planted must be reported to the police authorities before March 15. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. Dezember 1940, Bd. XII, Nr. 7, S. 156).

Germany (Bavaria). — By Notification of September 17, 1940, based on the Decree of May 4, 1939 relative to the Colorado beetle [*Leptinotarsa decemlineata*] (see this *Bulletin*, 1939, No. 7, pp. 157-159] the inspection zone ('Überwachungsgebiet') it extended to 23 circumscriptions of which 11 form part of the Lower Bavaria district and 12 in the Upper Bavaria district. (*Bayerisches Gesetz- und Verordnungs-Blatt*, München, 4. November 1940, Nr. 26, S. 202).

*** A Decree of September 27, 1940 relative to frost-injured nursery plants prescribes measures similar to those approved by Decree of September 26, 1940 in Prussia [see this *Bulletin*, 1941, No. 1, p. 8]. (*Ibid.*, S. 201-22).

*** A Circular of October 7, 1940 relative to the control of fruit pests and diseases calls the attention of those concerned to the provisions of the Ordinance dated October 29, 1937 [see this *Bulletin*, 1938, No. 5, pp. 100-101] which prescribe the elimination of dead or decaying trees.

The exceptional cold of last year having caused the dying-off, partial or total, of many fruit trees, the measures to be taken should not be delayed. Operations should be repeated in autumn as at this period the affected branches can be clearly distinguished from those still healthy.

In the case of any special difficulty being encountered, the police authorities will organize gangs of workmen who, under the supervision of specialists in the subject, will carry out the necessary operations. (*Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin, Anfang Dezember 1940, 20. Jahrg., Nr. 12, S. 84).

Germany (Ostmark). — An Ordinance dated October 16, 1940, prescribes that, during the winter period, the fruit crops of the Tyrol and Vorarlberg must be treated with the carbolineum preparation corresponding to the standards established by the Central Plant Protection Service. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. Dezember 1940, Bd. XII, Nr. 7, S. 156-157).

Belgium. — By Decree dated December 20, 1940, a general Service for the control of seeds and horticultural and agricultural crops has been established at the Ministry of Agriculture and Food Supplies.

Its purpose is to promote the increase of agricultural production by developing cultivation and the utilization of good quality seed and plants, by giving the purchaser of these products guarantees of origin, purity of species and sound condition. (*Moniteur Belge*, Bruxelles, 8 janvier 1941, nº 8, p. 140-142).

Chile. — Decree No. 652 of August 7, 1940 declares the scale insect *Lepidosaphes beckii* to be a crop pest in the Apaza Valley of Department of Arica in the Province of Tarapacá. Control measures are compulsory and will be carried out according to the instructions of the Plant Protection Department of the Ministry of Agriculture. (*Diario Oficial de la República de Chile*, Santiago, 23 de agosto de 1940, ano LXIII, núm. 18, 746, pág. 2616).

Italy. — Law No. 1689 of October 30, 1940 authorizes the establishment of the national Institute for pure and applied Entomology with headquarters at Rome. (*Gazzetta Ufficiale del Regno d'Italia*, Roma, 21 dicembre 1940, anno 81°, n. 298, p. 4742).

Mexico. — The ' Ley de sanidad fitopecuaria de los Estados Unidos Mexicanos ' of August 29, 1940 has been passed for the purpose of checking and controlling the diseases and pests of the plants and animals which contribute towards the agricultural economy of the country.

General indications on the methods to be employed are given.

The application of this Law is entrusted to the ' Secretaría de Agricultura y Fomento ' wihich in turn will be assisted by the National Board of Agriculture, the district Committees of Plant and Animal Protection as well as by the local ' Juntas ' of Plant and Animal Protection. (*Diario Oficial*, México, 26 de septiembre de 1940, tomo CXXII, núm. 21, págs. 6 a 8).

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